

Patent
10/008,999REMARKS

Claims 1-18 and 23-25 are now pending in the application. Dependent Claims 19-22 have been canceled and the limitations originally recited therein have been incorporated into amended Claim 1. Claim 1 is the only independent claim.

Claims 1-25 were rejected under 35 USC 103(a) as being unpatentable over US Patent 5,799,661 (Boyd et al.) in view of US Patent 5,837,003 (Ginsburg). In light of the foregoing claim cancellations and amendments, and the following discussion, this rejection is traversed and reconsideration is requested.

Independent Claim 1 is directed to a coronary bypass procedure comprising positioning a heat transfer element in a blood vessel of a patient, cooling the body of the patient to less than 35°C using said heat transfer element and forming a fluid communicating graft between an arterial blood supply and the coronary artery. The patient's blood is oxygenated with the patient's lungs and blood is circulated using the patient's heart or using an intracorporeal pump. Claim 1 has been amended to recite that the heat transfer element is attached to a distal end of a flexible catheter that is used in the step of positioning the heat transfer element in the blood vessel and to convey chilled or heated fluid to the interior of the heat transfer element. The heat transfer element includes a plurality of exterior surface irregularities shaped and arranged to create mixing in the blood, and a plurality of interior surface irregularities shaped and arranged to create mixing in fluid within the heat transfer element. The interior and exterior surface irregularities comprise one or more helical ridges and one or more helical grooves.

The rejection of Claims 19-22 in the final Office Action states, "see figures 5 and 11 of Ginsburg...[f]or the interior irregularities see figure 6 which clearly shows a polygonal configuration designed for fluid flow therein...[n]ote column 7, lines 20+ of Ginsburg discloses that some embodiments provide an increased surface area through which heat transfer may take place".

Applicant respectfully submits that both Boyd and Ginsburg fail to teach or suggest a coronary bypass procedure, as recited in amended independent Claim 1, in which a heat transfer element, that includes both interior and exterior surface irregularities of "one or more helical ridges and one or more helical grooves" (to create mixing in both the blood and the fluid within the heat transfer element, respectively), is positioned in a blood vessel of a patient to cool the body of the patient.

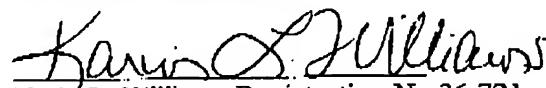
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For at least the foregoing reason, independent Claim 1, as amended herein, is believed to be clearly patentable over Boyd and Ginsburg and reconsideration is respectfully requested.

Dependent Claims 2-18 and 22-25 are believed to be clearly patentable for all of the reasons indicated above with respect to Claim 1 from which they depend, and even further distinguish over the cited references by reciting additional limitations.

It is respectfully submitted that in regard to the above amendment and remarks that the pending application is patentable over the art of record and prompt review and issuance is accordingly requested. Should the Examiner be of the view that an interview would expedite consideration of this Amendment After Final Rejection or of the application at large, request is made that the Examiner telephone the Applicant's undersigned attorney at (908) 518-7700 in order that any outstanding issues may be resolved.

Respectfully submitted,


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I hereby certify that this document and any document referenced herein has been transmitted via facsimile to the US Patent and Trademark Office at (703)872-9303 on March 17, 2004.

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